

REMARKS

The following remarks are submitted as a full and complete response to the final Office Action issued on July 16, 2008.

Claim Rejections - 35 U.S.C. § 103

Claims 1, 2, 11, 12, 18 and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Publication 58115947 to Koichi et al. (hereinafter "Koichi") in view of U.S. Patent 6,265,237 to Heffner et al. (hereinafter "Heffner").

Present claim 1, from which claims 2-7 and 10 depend, relates to a method for generating a laser pulse, whereby an optical injection pulse generated by a DFB and DBR laser is fed into a Fabry-Perot laser used as a main laser. The optical injection pulse is generated in such a way that it arrives at the main laser at a point in time at which the charge carrier density in the main laser has just reached or just exceeds the threshold charge carrier density.

Applicants thank the Examiner for acknowledging that Koichi fails to disclose or suggest that the main laser is a Fabry-Perot laser or that the auxiliary laser is a DFB or DBR laser. The advantage, according to the present invention, of combining a Fabry-Perot main laser and a DFB and DBR auxiliary laser is that the Fabry-Perot-laser can be fabricated very economically and, although it normally is a multimode laser, generates monomode output because it is driven by the DFB or DBR laser.

A further deficiency of Koichi is that Koichi discloses that the structure and the characteristics of both lasers are identical; see Koichi, pg. 8, 1st paragraph and pg. 9, third paragraph. Therefore, there is suggestion or disclosure to use different lasers, much less using a Fabry-Perot main laser and a DFB or DBR auxiliary laser.

Heffner fails to cure this further deficiency of Koichi. There is no suggestion or disclosure in Heffner that the lasers of Koichi should not be identical, nor does the Examiner even allege as much.

The Examiner has not sustained his burden to combine Koichi and Heffner. First, a combination of Koichi and Heffner is not obvious since Heffner relates to a test procedure for semiconductor lasers, whereas Koichi relates to a method for generating pulsed signals for data transmission, i.e., relates to a different technical field. Second, the Examiner has not provided any reason to combine Koichi and Heffner, much less select the particular lasers recited in the claim, beyond it being "an obvious design choice." The Examiner has provided no reason why this choice is any more likely than any other piece of art or combination of single and multimode lasers. Applicants respectfully submit that the Examiner has impermissibly used hindsight to create this rejection.

Claim 11, from which claims 12-19 depend, recites "wherein the main laser is a Fabry-Perot laser and the auxiliary laser is at least one of a DFB laser or a DBR laser." Applicants respectfully submit that claim 11 is patentable over the prior art for at least the reasons above.

Accordingly, Applicants request that this rejection be withdrawn, and that claims 1, 2, 11, 12, 18 and 19 be passed to issuance.

Claims 3, 4, 6, 13, 14 and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Koichi in view of Heffner and further in view of Mourou US Patent 4,347,437 (hereinafter referred to as Mourou). Mourou fails to cure the deficiencies of the prior art because Mourou is directed to producing avalanche conduction and fails to disclose any of a Fabry-Perot laser, a DFB laser or a DBR laser.

Claims 3, 4, 6, 13, 14 and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Koichi in view of Mourou. Applicants submit that claims 3, 4, 6, 13, 14 and 16 are patentable over Koichi and Mourou for at least the reasons above.

Accordingly, Applicants request that this rejection be withdrawn, and that claims 3, 4, 6, 13, 14 and 16 be passed to issuance.

Claims 5 and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Koichi in view of Heffner and Mourou and further in view of Basting et al. US Patent 6,005,880 (hereinafter referred to as Basting). Basting fails to cure the deficiencies of the prior art because Basting is directed to timing circuitry and fails to disclose any of a Fabry-Perot laser, a DFB laser or a DBR laser.

Claims 5 and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Koichi in view of Mourou and Basting. Applicants submit that claims 5 and 15 are patentable over Koichi and Mourou for at least the reasons above.

Accordingly, Applicants request that this rejection be withdrawn, and that claims 5 and 15 be passed to issuance.

Claims 7 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Koichi in view of Heffner and further in view of Braiman et al. US PG Pub 2003103534 (hereinafter referred to as Braiman). Braiman fails to cure the deficiencies of the prior art because Braiman is directed to laser array synchronization and fails to disclose any of a Fabry-Perot laser, a DFB laser or a DBR laser.

Claims 7 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Koichi in view of Braiman. Applicants submit that claims 7 and 17 are patentable over Koichi and Mourou for at least the reasons above.

Accordingly, Applicants request that this rejection be withdrawn, and that claims 7 and 17 be passed to issuance.


Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Koichi, in view of Heffner and further in view of Hakimi et al. US PG Pub 2002015206 (hereinafter referred to as Hakimi). Hakimi fails to cure the deficiencies of the prior art because Hakimi is directed to wavelength division multiplexing and fails to disclose any of a Fabry-Perot laser, a DFB laser or a DBR laser.

Accordingly, Applicants request that this rejection be withdrawn, and that claim 10 be passed to issuance.

In light of the foregoing, Applicants submit that all outstanding rejections have been overcome, and the instant application is in condition for allowance. Thus, Applicants respectfully request early allowance of the instant application.

In the event that this paper is not considered to be timely filed, the Applicant respectfully petitions for an appropriate extension of time. Any fee for such an extension together with additional fees that may be due with respect to this paper, may be charged to Counsel's Deposit Account No. 02-2135.

Respectfully submitted,

By: 
David B. Orange
Attorney for Applicants
Registration No. 55,513
ROTHWELL, FIGG, ERNST & MANBECK, P.C.
1425 K. Street, Suite 800
Washington, D.C. 20005
Telephone: (202) 783-6040

RBM/DO:kdm
1535419_WD